

Chapter 8- Warm Up

This should be a review from previous chapters. Use your notes and book from Ch. 1-5 to answer the questions.

1- What is formal statistical inference? (Ch. 3)

ch. 7-10 - Making conclusions from samples about pop.
* with a known degree of confidence

2- A parameter describes what?

pop.

3- A statistic describes what?

sample

4- Is \bar{x} resistant? Is σ^u resistant? Is σ resistant?

Is \hat{p} resistant?

$$\hat{p} = \frac{x}{n} \leftarrow \text{successes}$$

NO none of them

5- What is an unbiased estimator? (Ch. 3)

$$\bar{x} \approx \mu$$



yes

6- What is the Empirical Rule? (Ch. 1)

68- 95- 99.7%

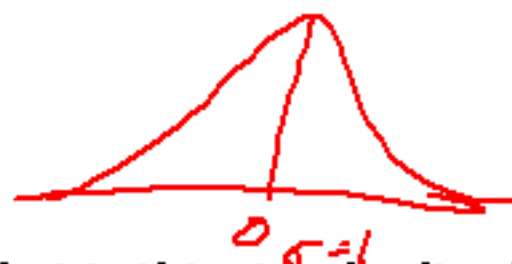
$\mu \pm \sigma$ 68%

$\mu \pm 2\sigma$ 95%

$\mu \pm 3\sigma$ 99.7%

7- What is the distribution of the standard normal curve? (Ch. 1)

$N(0, 1) \Rightarrow z\text{-scores}$



8- How do we standardize an observation? (what is the formula?) What is this standardized observation called? (Ch. 1)

$$z = \frac{x - \mu}{\sigma}$$

$z = 1.4 \sigma$ above its mean

$z = -2.6 \sigma$ below μ .

9- What two z-scores have 90% of the data between them? (use invnorm)



$$z_1 = \text{invnorm}(0.05, 0, 1) = 1.645$$

$$z_2 = \text{invnorm}(0.95, 0, 1) = 1.645$$

10- When we have a question about proportions what check allows us to say it is normal?

$$\begin{matrix} n \cdot p \\ n(1-p) \end{matrix} \geq 10 \rightarrow \text{passes } \hat{p} \sim N$$